

# IOWA Department of REVENUE

## Iowa Leading Indicators Index September 2009 Report

Tax Research and Program Analysis Section

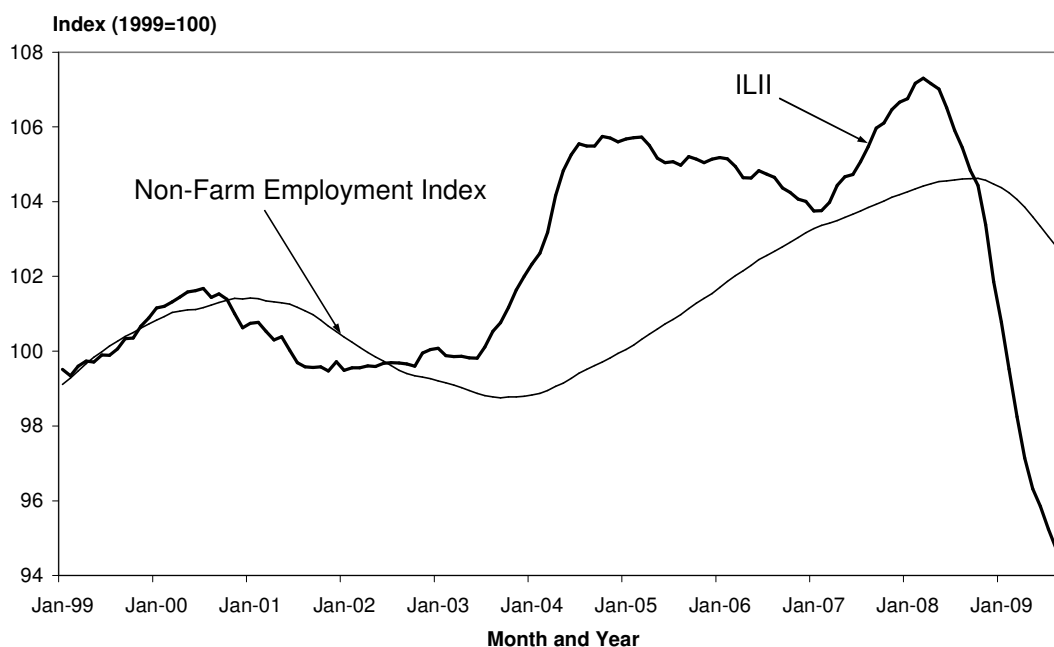
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The Iowa Leading Indicators Index (ILII) dropped to 94.5 (100=1999) in September 2009 from 94.7 in August. The Iowa non-farm employment coincident index fell by 0.24 percent for the month, the eleventh consecutive monthly decrease.

The ILII's value decreased 0.2 percent in September after decreasing 0.5 percent in August, extending the streak of monthly declines to eighteen. During the six-month span through September, the ILII dropped 3.8 percent (a -7.6 percent annual rate). The six-month diffusion index (value of 25.0) reflects an increase of 0.5 percent or greater in the new orders index and yield spread over the last half year, while the other six components experienced a 0.5 percent or greater decrease.

In September, three of the eight Iowa Leading Indicators components increased. The positive contributors were the new orders index, new residential building permits, and average weekly manufacturing hours. Negative contributors were the agricultural futures price index, diesel fuel consumption, unemployment insurance claims (inverted), the Iowa stock market index, and the yield spread.

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-September 2009**



**Table 1. Iowa Leading Indicators Index: Six Month Overview**

Monthly Values	2009					
	April	May	June	July	August	September
ILII	97.1	96.3	95.9	95.2	94.7	94.5
Percentage Change <sup>a</sup>	-1.1%	-0.8%	-0.5%	-0.6%	-0.5%	-0.2%
Diffusion Index <sup>b</sup>	12.5	12.5	37.5	25.0	25.0	37.5
Six-Month Values	Oct to April	Nov to May	Dec to June	Jan to July	Feb to August	Mar to September
	April	May	June	July	August	September
ILII						
Percentage Change	-7.0%	-6.8%	-5.9%	-5.5%	-4.8%	-3.8%
Annualized Percentage Change	-14.0%	-13.7%	-11.8%	-11.0%	-9.6%	-7.6%
Diffusion Index	0.0	0.0	12.5	12.5	12.5	25.0

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced October 27, 2009.

a. Percentage changes in the ILII do not always equal changes in the level of the ILII due to rounding.

b. A diffusion index measures the proportion of components that are rising based on the actual changes (not the standardized contributions to the ILII). Components experiencing increases greater than 0.05 percent are assigned a value of 1.0, components that experience changes less than an absolute value of 0.05 percent are assigned a value of 0.5, and components experiencing decreases greater than 0.05 percent are assigned a value of 0.0.

**Table 2. Iowa Leading Indicators Index Components: Six Month Overview**

Component Series Monthly Values <sup>a</sup>		2009					
		April	May	June	July	August	September
AFPI <sup>b</sup>	↓ <sup>c</sup>						
Corn Profits (cents per bushel)		190.2	170.7	140.5	107.6	82.4	58.3
Soybean Profits (cents per bushel)		356.9	322.2	275.8	220.0	187.5	158.2
Hog Profits (cents per pound)		13.1	11.8	10.7	9.4	6.8	5.5
Cattle Profits (cents per pound)		-9.2	-9.2	-9.4	-9.4	-9.9	-9.8
Iowa Stock Market Index (10=1984-86)	↓	51.06	49.84	48.75	48.13	47.77	47.39
Yield Spread (10-year less 3-month)	↓	2.77	3.11	3.54	3.38	3.42	3.28
Building Permits	↑	558	539	545	557	551	565
Average Weekly Unemployment Claims <sup>d</sup>	↓	6,648	6,964	7,114	7,440	7,670	7,816
Average Weekly Manufacturing Hours	↑	38.7	38.5	38.4	38.3	38.3	38.3
New Orders Index (percent)	↑	33.3	32.9	34.6	36.0	36.8	39.3
Diesel Fuel Consumption (mil gallons)	↓	53.65	53.24	52.69	52.40	52.06	51.71

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced October 27, 2009.

a. For all component series except for the yield spread (the only national series) the values represent 12-month backward moving averages.

b. The agricultural futures price index is computed as the sum of the standardized symmetric percent changes in the four series, each weighted by the commodity's annual share of Iowa cash farm income (updated August 21, 2009).

c. Arrows indicate the direction of the series' contribution to the ILII for the latest month.

d. Changes in unemployment claims are inverted when added to the ILII, thus a negative change in the series contributes positively to the index.

# ILII Components

- **New orders index:** Diffusion index measuring the share of purchasing managers in Iowa reporting increases in orders received for manufacturing output. Changes are calculated based on a 12-month moving average. In September 2009 the index jumped to 56.7, its strongest showing since April 2008. Professor Ernest Goss, who compiles the index, notes that “durable good producers, other than those linked to agriculture, are experiencing improving economic conditions.” The strong monthly gain pushed up the 12-month moving average and contributed 0.16 to the ILII.
- **Building permits:** Number of total permits issued in Iowa for the construction of residential housing units. Changes are calculated based on a 12-month moving average. During September 2009 this component contributed 0.08 to the ILII value. September 2009 permits were 22.6 percent higher than September 2008 permits, pushing the 12-month moving average up by 2.5 percent.
- **Average weekly manufacturing hours:** Weekly average of hours worked in the manufacturing sector in Iowa. Changes are calculated based on a 12-month moving average. During September 2009 this component contributed 0.03 to the ILII value as September hours jumped to 40.6 from a revised 39.7 in August.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During September, the yield spread decreased as the long-term rate fell 19 basis points while the short-term rate slipped five basis points. This component contributed -0.04 to the ILII.
- **Iowa stock market index:** Capitalization-weighted index of 34 Iowa-based or Iowa-concentrated publicly-traded companies. Changes are calculated based on a 12-month moving average. During September, 22 of the 34 companies gained value including 7 of the 12 financial-sector companies. Despite the many gains, the stock market index remained below its level in September 2008, contributing -0.05 to the ILII value. Although weakness in the markets began in September 2008, the large drop in the index did not manifest in the data until October 2008.
- **Average weekly unemployment claims:** Weekly average of initial claims for unemployment insurance in Iowa. Changes are calculated based on a 12-month moving average and are inverted when added to the ILII. During September 2009 this component contributed -0.06 to the ILII value with unemployment claims 43.9 percent above September 2008 claims.
- **Diesel fuel consumption:** Number of taxable gallons of diesel fuel sold in Iowa. Changes are calculated based on a 12-month moving average. Diesel fuel consumption contributed -0.12 to the ILII value for September 2009, with a 7.9 percent drop in reported consumption for the month relative to the prior year and a 0.7 percent drop in the 12-month moving average.
- **Agricultural futures price index:** Composite measure of corn, soybean, hog, and cattle expected profits, measured as the futures price less estimated breakeven costs, weighted by the respective share of annual Iowa cash farm income. Changes are calculated based on a 12-month moving average. During September, this component contributed -0.24 to the ILII value as the 12-month moving average of expected profits for corn, soybeans, and hogs all dropped while expected profits for cattle improved slightly.

**Table 3. ILII Components and Standardization Factors for FY 2010**

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Price Index	0.052
Iowa Stock Market Index	0.059
Yield Spread	0.289
Building Permits	0.034
Average Weekly Unemployment Claims	0.033
Average Weekly Manufacturing Hours	0.298
New Orders Index	0.064
Diesel Fuel Consumption	0.171

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 21, 2009. The standardization factors are the inverse of the standard deviation of the month-to-month changes in each component over the January 1999 to June 2009 period. These factors equalize the volatility of the contribution from each component and are normalized to one. The month-to-month changes are based on 12-month backward moving averages for all components except the yield spread, which is the only national series. The yield spread and new orders index changes are simple arithmetic changes; month-to-month changes for the rest of the components are computed as symmetric percentage changes. The factors are updated annually during the summer.

## Comments

The Iowa Leading Indicators Index (ILII) is designed to forecast the likely future direction of economic activity in the state of Iowa. The techniques used to build the ILII follow those used by The Conference Board to construct the national Leading Economics Index (LEI). A one-month movement in such an index does not produce a clear signal, rather it is necessary to consider the direction of the index over several consecutive months. The Conference Board considers a contraction signal in the LEI reliable when two conditions are met: 1. the index declines by at least two percent over a six month period (using an annualized rate); and, 2. a majority of the individual components decline over those six months (the six-month diffusion index less than 50.0).

The Iowa Non-Farm Employment Coincident Index measures the change in non-farm employment in the state of Iowa. Changes are based on a 12-month moving average of employment and are computed as symmetric percentage changes. The index is a representation of economic activity in Iowa

The employment index and the ILII are constructed to have a value of 100 in the year 1999.

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